

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

TENTATIVE ORDER FOR SITE CLEANUP REQUIREMENTS

**PORT OF RICHMOND
VOPAK NORTH AMERICA, INC.
UNITED MOLASSES COMPANY**

**PORT OF RICHMOND TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. **Site Location and Description:** Port of Richmond Terminal 4 (hereinafter referred to as the site) is located in Contra Costa County on Point San Pablo, near the northwest tip of Richmond, California (see Figure 1). The site is located on a peninsula, jutting into the San Francisco Bay. The city of Richmond lies to the East. The site consists of two former leaseholds that are adjacent to Terminal 4; the former Vopak North America Inc. (Vopak) leasehold, and the former United Molasses Company. The Vopak leasehold occupies approximately 9.5 acres of land and consists of several buildings, a former aboveground tank farm and related structures, and several underground storage tanks. The former United Molasses Company leasehold occupies approximately six acres of land southwest of the Vopak leasehold and consists historically of several structures, ten aboveground storage tanks, and one underground storage tank (see Figure 2).
2. **Site History:** Vopak and its predecessors, which include Dorward & Sons and Paktak California (and their various configurations), began operating a bulk oil storage facility on the site in 1917. Products stored include but are not limited to lubricating oils, diesel oil, neutral oil 100 and 500, Grade 4 oil, distillate oil, No. 5 fuel oil, No. 6 fuel oil, jet fuel, polybutane, toluene, xylene, alkylbenzene, alcohols, animal and vegetable oils, liquid fertilizers, and phosphoric acids. The products were contained in approximately 100 aboveground storage tanks with a capacity ranging from 1000 to 3.9 million gallons, with a total capacity of 21,000,000 gallons. Operations ceased in 2000, and the tanks

were demolished and removed by 2001. An undetermined number of underground storage tanks were also located at the site. Two former pipelines transported alkene, propylene tetramer, and polymers from the neighboring Chevron Refinery. The pipelines were constructed, owned and operated by Chevron.

United Molasses Company's predecessors, PM Ag and Pacific Molasses Company, began leasing property in 1936. PM Ag and Pacific Molasses Company were engaged in aboveground bulk storage, handling, and distribution of commercial agricultural products. Products included coconut oil, lignin liquor, linseed oil, cane molasses, blackstrap molasses, beet molasses, and tallow. Two boilers were used to heat and improve the transfer of products. The boilers were fired by gas and diesel fuel, which was contained in one aboveground tank of unknown size and one underground storage tank with a capacity of approximately 8,000 gallons.

3. **Regulatory Status:** This site is currently not subject to a Board order.
4. **Purpose of Order:** This order establishes Site Cleanup Requirements (SCRs) for the site, and includes provisions, specifications, tasks, and a schedule necessary to minimize impacts and to protect the beneficial uses of waters of the State. California Water Code Section 13304 authorizes the Board to issue orders requiring a dischargers to cleanup and abate waste where the dischargers have caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
5. **Named Dischargers:** The Port of Richmond currently owns the site; therefore the Port of Richmond is hereinafter referred to as a discharger. The discharge of materials impacting water quality occurred in the area of the Vopak site during the period which Vopak and its predecessors formerly leased and conducted operations on its portion of the site, therefore Vopak is hereinafter referred to as a discharger. The discharge of materials impacting water quality also occurred in the area of the United Molasses site during the period which United Molasses and its predecessors (i.e. Pacific Molasses Company and PM Ag) formerly leased and conducted operations on its portion of the site; therefore United Molasses is also hereinafter also referred to as a discharger.
6. **Site Hydrogeology:** The site is located on the hilly peninsula of the Portrero-San Pablo Ridge, which is composed of the steeply dipping Franciscan complex. The bedrock is composed of sandstone, shale, and conglomerate. Past sea level fluctuations resulted in a complex sedimentary sequence of interfingering estuarine and alluvial fan deposits overlying the Franciscan Complex bedrock. The uppermost deposits, which consist of imported fill ranging from 3 to 30 feet deep overlies Bay Muds that consist of silt and silty clay with abundant plant matter. The Bay Muds overlie the Franciscan bedrock. The ground surface at the eastern/uphill portion of the site consists of the Franciscan

bedrock. The ground surface at the western/downhill portions of the site consists of artificial fill. The site is bounded by the Hayward Fault to the east and the San Pedro-San Pablo Fault to the west. Groundwater beneath the site lies approximately 8-15 feet below the ground surface and generally flows to the west/southwest, and discharges into San Francisco Bay. Because of the variable nature of the surface topography, subsurface materials, above and underground utilities and drainage structures, it is difficult to predict with certainty the movement of surface water and groundwater at the site and the migration of contaminants in water.

7. **Remedial Investigations:** Remedial investigations were conducted at the site by Vopak, PM Ag, and the City of Richmond in 2001-2003. The investigations were conducted to evaluate impacts of releases at the site, including:

- seepage of petroleum product observed along an area of the beach downgradient of the Vopak and PM Ag sites;
- discharge of oil product in storm water, near the location of the beach seep
- releases identified during tank removals at the Vopak and PM Ag sites;
- releases associated with a EBMUD water line leak at the Vopak site; and,
- a release of petroleum hydrocarbon product from the Vopak site to bay waters.

Site investigations include: soil sampling, trenching, and groundwater sampling throughout the site. Potential source areas and areas along downgradient beach areas were also sampled. The investigations indicate that petroleum hydrocarbon contamination is present in large areas of the site, including the Vopak tank farm area. The most severe contamination is free-phase petroleum hydrocarbon product in groundwater in the southern portion of the site. This area is downgradient of the Vopak tank farm, underlies the former PM Ag facility, and extends to the beach area where the petroleum seeps were observed.

Free product is also present in the northern portion of the site, downgradient of the Vopak storage tank farm. The documented releases of petroleum hydrocarbons at the Vopak facility and the occurrence of bulk quantities of the petroleum hydrocarbons downgradient of the Vopak bulk petroleum storage facilities indicates that Vopak is a source of petroleum hydrocarbons at the site. Investigations also indicate that a source of petroleum contaminants exists under the PM Ag facility. Further analysis is needed to determine whether past operations at the facility contributed to this contamination.

8. **Interim Remedial Measures:** Interim remedial measures at the site include removal of the sources and potential sources of contamination between 1990 and 2002. No further

beach seeps have occurred since 2001 when the storage tank facilities at the Vopak site were removed and the EBMUD water line leak was repaired.

9. **Basin Plan:** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required.

The potential beneficial uses of groundwater beneath the site includes:

- a. Municipal and domestic water supply
- b. Industrial process water supply
- c. Industrial service water supply
- d. Agricultural water supply
- e. Freshwater replenishment to surface waters

At present, there is no known use of groundwater underlying the site for the above purposes.

The existing beneficial uses of waters of San Francisco Bay includes:

- a. Municipal and domestic supply
- c. Industrial process supply or service supply
- e. Water contact and non-contact recreation
- f. Wildlife habitat
- g. Cold freshwater and warm freshwater habitat
- h. Fish migration and spawning
- i. Navigation
- j. Estuarine habitat
- k. Shellfish harvesting
- l. Preservation of rare and endangered species

10. **Other Board Policies:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels.

11. **State Water Board Policies:** State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. Given the Board's past experience with groundwater pollution cases of this type, it is unlikely that background levels of water quality can be restored. This initial conclusion will be verified when a remedial action plan is prepared. This Order and its requirements are consistent with Resolution No. 68-16.

State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

12. **Preliminary Cleanup Goals:** The dischargers will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft remedial action plan. Pending the establishment of site-specific cleanup standards, the following preliminary cleanup goals shall be used for these purposes:
- a. Groundwater: Applicable water quality objectives (e.g. lower of primary (toxicity) and secondary (taste and odor) maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, equivalent drinking water levels based on toxicity and taste and odor concerns.
 - b. Soil: Applicable screening levels as compiled in the Board's draft Environmental Screening Levels (ESLs) document or its equivalent. Soil screening levels are intended to address a full range of exposure pathways, including direct exposure, indoor air impacts, nuisance, and leaching to groundwater. For purposes of this subsection, the dischargers shall assume that groundwater is a potential source of drinking water.
13. **Cost Recovery:** Pursuant to California Water Code Section 13304, the dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
14. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California

Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

15. **Public Notice:** The Board has notified the dischargers and interested agencies and persons of its intent to under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
16. **Public Hearing:** The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers (or their agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. WORKPLAN TO EVALUATE CURRENT SITE CONDITIONS

COMPLIANCE DATE: November 1, 2007

Submit a workplan, acceptable to the Executive Officer, to evaluate current surface water and groundwater conditions at the site, including, at a minimum: the extent of free and dissolved petroleum hydrocarbon product, the pathways and migration rates of contaminants in surface water, groundwater, soil, and bedrock, and, the current conditions of beach areas where historic releases have been observed. The workplan shall provide for resampling of all existing groundwater

monitoring wells. The workplan shall specify investigation methods and a proposed time schedule for implementation of the workplan.

2. **CURRENT SITE CONDITIONS REPORT**

COMPLIANCE DATE: May 1, 2008

Submit a technical report, acceptable to the Executive Officer, documenting completion of necessary tasks identified in the Task 1 workplan. The report shall describe the current site conditions based on an evaluation of available site data. The report shall also propose additional investigation and a time schedule for implementation, if necessary, to provide additional data necessary to define the extent of surface water and groundwater impacts at the site.

3. **WORKPLAN FOR INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: July 1, 2008

Submit a workplan, acceptable to the Executive Officer, which proposes interim remedial actions for the site. The interim remedial actions shall include the removal of free petroleum product from groundwater, elimination and prevention of the discharge of free or dissolved product into the bay, and remediation of any remaining impacts to beach areas and bay waters. The workplan shall specify the methods of remediation and include a proposed time schedule.

4. **REPORT DOCUMENTING IMPLEMENTATION OF INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: December 1, 2008

Submit a technical report, acceptable to the Executive Officer, documenting implementation of interim remedial actions proposed in the Task 3 workplan. The report shall describe any variation with the interim remedial actions proposed in Task 3.

5. **WORKPLAN FOR FINAL REMEDIAL MEASURES**

COMPLIANCE DATE: April July 1, 2009

Submit a technical report, acceptable to the Executive Officer, evaluating the performance of interim remedial measures on both free and dissolved groundwater and surface water contamination at the site. The report shall propose final cleanup plan which includes, at a minimum, the following:

Port of Richmond Terminal 4
Tentative Order for Site Cleanup Requirements

- a. Results of any additional investigation
- b. Evaluation of the installed interim remedial actions
- c. Risk assessment for current and post-cleanup exposures
- d. Proposed numeric site-specific final cleanup standards for soil and groundwater
- e. Feasibility study evaluating and proposing final remedial actions
- f. Implementation tasks and time schedule

Item c shall include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a through c shall be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code Section 25356.1(c), and State Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

Item e shall consider the preliminary cleanup goals for soil and groundwater identified in finding 12 and shall address the attainability of background levels of water quality (see finding 11).

6. **SITE MONITORING PLAN**

COMPLIANCE DATE: October 1, 2007

Submit a workplan, acceptable to the Executive Officer, proposing a site monitoring plan which will provide hydrological and water quality data necessary to evaluate site conditions and the performance of interim and final remedial actions. The workplan shall specify wells to be monitored, monitoring frequency, and analytical methods.

7. **Delayed Compliance:** If the dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.

C. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good Operation and Maintenance (O&M):** The dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the dischargers shall permit the Board or its authorized representative:
 - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.
5. **Self-Monitoring Program:** The dischargers shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered professional geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality

assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. City of Richmond, Richmond Community Redevelopment Agency
 - b. Contra Costa County, Department of Environmental Health

The Executive Officer may modify this distribution list as needed.

9. **Reporting of Changed Owner or Operator:** The dischargers shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the dischargers shall report such discharge to the Board by calling (510) 622-2369 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The dischargers may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

Port of Richmond Terminal 4
Tentative Order for Site Cleanup Requirements

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on _____.

Bruce H. Wolfe
Executive Officer

Figures: Figure 1 - Location Map
 Figure 2 - Site Map

Attachment: Self-Monitoring Program